

IN THE CLAIMS:

Please amend claims 51, 92, 94, 95, 97, 115, 117, 119 and cancel claims 80, 82, 83, 85, 86, 96, 100, 102, 103, 105-107, 112, 113, 116, 118 and 122-127 as follows. This listing of claims replaces all prior versions, and listings of claims, in the application.

Listing of Claims:

- 1-49. (Cancelled)
50. (Previously Presented) The method of claim 92, wherein the cell is a plant protoplast.
51. (Currently Amended) The method of claim 50, wherein the SATAC ~~comprises heterologous DNA that~~ encodes a gene product.
52. (Previously Presented) The method of claim 51, wherein the SATAC is introduced by cell fusion, lipid-mediated transfection by a carrier system, microinjection, microcell fusion, electroporation, microprojectile bombardment, or direct DNA transfer.
- 53-72. (Cancelled)
73. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by direct DNA transfer.
74. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by cell fusion.
75. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by lipid-mediated transfection by a carrier system.
76. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by microinjection.
77. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by microcell fusion.
78. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by electroporation.
79. (Previously Presented) The method of claim 50, wherein the SATAC is introduced by microprojectile bombardment.
80. Cancelled
81. (Previously Presented) The method of claim 51, wherein the SATAC is introduced by cell fusion.
82. Cancelled
83. Cancelled

84. (Previously Presented) The method of claim 51, wherein the SATAC is introduced by microcell fusion.

85. Cancelled

86. Cancelled

87. (Previously Presented) The method of claim 51, wherein the gene product confers disease resistance to the transgenic plant.

88. (Previously Presented) The method of claim 50, wherein the plant protoplast is selected from a monocot, a dicot and an algae.

89. (Previously Presented) The method of claim 88, wherein the plant protoplast is selected from tobacco, tomato, potato, petunia, wheat, rice, maize, rye, cotton, soybean, *Brassica napus* and lettuce.

90. (Previously Presented) The method of claim 51, wherein the plant protoplast is selected from a monocot, a dicot and an algae.

91. (Previously Presented) The method of claim 90, wherein the plant protoplast is selected from tobacco, tomato, potato, petunia, wheat, rice, maize, rye, cotton, soybean, *Brassica napus* and lettuce.

92. (Currently amended) A method for producing a transgenic plant, comprising introducing a satellite artificial chromosome (SATAC) into a plant cell, wherein a SATAC has more heterochromatin than euchromatin; and

growing the plant cell under conditions to produce a transgenic plant.

93. (Previously Presented) The method of claim 92, wherein the plant cell is contained in a plant organ or embryoid.

94. (Currently amended) The method of claim 92, wherein the plant ~~protoplast~~ cell is selected from tobacco, tomato, potato, petunia, wheat, rice, maize, rye, cotton, soybean, *Brassica napus* and lettuce.

95. (Currently Amended) The method of claim 92, wherein the SATAC ~~comprises heterologous DNA~~ encodes a gene product.

96. Cancelled

97. (Currently Amended) The method of claim ~~96~~ 95, wherein the gene product confers disease resistance to the transgenic plant.

98. (Previously Presented) The method of claim 95, wherein the plant cell is selected from a monocot, a dicot and an algae.

99. (Previously presented) The method of claim 95, wherein the plant cell is selected from tobacco, tomato, potato, petunia, wheat, rice, maize, rye, cotton, soybean, *Brassica napus* and lettuce.

100. Cancelled

101. (Previously Presented) The method of claim 92, wherein the SATAC is introduced by cell fusion.

102. Cancelled

103. Cancelled

104. (Previously Presented) The method of claim 92, wherein the SATAC is introduced by microcell fusion.

105 – 107. Cancelled

108. (Previously Presented) The method of claim 95, wherein the SATAC is introduced by cell fusion.

109. Cancelled

110. Cancelled

111. (Previously Presented) The method of claim 95, wherein the SATAC is introduced by microcell fusion.

112. Cancelled

113. Cancelled

114. (Previously Presented) The method of claim 92, wherein the satellite artificial chromosome is a satellite artificial chromosome that includes a plant centromere.

115. (Currently amended) The method of claim 92, wherein the satellite artificial chromosome is ~~produced~~ introduced into the cell by a method comprising:

introducing one or more DNA fragments into a plant cell, wherein the DNA fragment or fragments comprise a selectable marker,

growing the cell under selective conditions to produce cells that have incorporated the DNA fragment into their genomic DNA,

selecting a cell that comprises a satellite artificial chromosome, thereby introducing a satellite artificial chromosome into the cell.

116. (Cancelled)

117. (Currently Amended) The method of claim 114, wherein the satellite artificial chromosome encodes a gene product. ~~comprises heterologous DNA.~~

118. (Cancelled)

119. (Currently Amended) The method of claim 117 ~~118~~, wherein the gene product confers disease resistance to the transgenic plant.

120. (Previously Presented) The method of claim 114, wherein the plant cell is selected from a monocot, a dicot and an algae.

121. (Previously Presented) The method of claim 114, wherein the plant cell is selected from tobacco, tomato, potato, petunia, wheat, rice, maize, rye, cotton, soybean, *Brassica napus* and lettuce.

122-127. Cancelled